

### REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-9, 11, 12, and 14-18 are pending in the present application. Claims 1, 8, 9, 16, and 17 are amended and Claims 4-7, 14, 15, and 18 are withdrawn from consideration.

In the outstanding Office Action, the election requirement was made final; Claim 8 was objected to; the drawings were objected to; Claims 1, 9, 11, 12, 16, and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi et al. (U.S. Patent No. 5,680,190, “Michibayashi”) in view of Kaneko et al. (U.S. Patent No. 5,777,700, herein “Kaneko”); Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi in view of Kaneko and Kim et al. (U.S. Patent No. 6,198,516 B1, herein “Kim”); and Claim 8 was rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi, Kaneko, and Lee et al. (U.S. Patent No. 6,215,542 B1, herein “Lee”).

Regarding the objection to Claim 8, Claim 8 is amended as suggested in the outstanding Office Action and without adding new matter. Accordingly, it is respectfully requested this objection be withdrawn.

Regarding the objection to the drawings, Figures 18 and 19 are labeled “BACKGROUND ART” as suggested in the outstanding Office Action. Accordingly, it is respectfully requested this objection be withdrawn.

Claims 1, 9, 11, 12, 16, and 17 were rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi and Kaneko. That rejection is respectfully traversed.

Claims 1, 9, 16, and 17 are amended to more clearly recite that first and second voltages are applied to a liquid crystal by first and second pixel electrodes, respectively. The claim amendments find support in the specification at page 30, line 20, to page 31, line 8. No new matter has been added.

Briefly recapitulating, amended Claim 1 is directed to a liquid crystal display device including, *inter alia*, pixel electrodes. The pixel electrodes have a first pixel electrode and a second pixel electrode that are electrically connected. The first pixel electrode applies a first electric field to a liquid crystal and the second pixel electrode applies a second electric field to the liquid crystal, with a strength different from the first electric field. A ratio of a first voltage applied to the liquid crystal by the first pixel electrode and a second voltage applied to the liquid crystal by the second pixel electrode is 0.5:1.0 to 0.9:1.0. Independent Claims 9, 16, and 17 recite similar features as Claim 1.

Turning to the applied art, Michibayashi shows in Figure 1A a liquid crystal display including TFTs on a semiconductor layer and pixel electrodes 23 and 24. As recognized in the outstanding Office Action at page 5, first full paragraph, “Michibayashi does not appear to explicitly specify that a ratio of a first voltage applied to the first pixel electrode and a second voltage applied to the second pixel electrode is 0.5:1.0 to 0.9:1.0.”

The outstanding Office Action relies on Kaneko for teaching a gate insulating film 98 disposed between a first pixel electrode 94 and a second pixel electrode 96 and the gate insulating film having a thickness of 4,000 angstroms (400 nm).

Based entirely on the Applicants’ specification, the outstanding Office Action states at page 5, last paragraph, that “the thickness of the insulation film is directly related to the voltage ratio.” Further, the outstanding Office Action reads from the Applicants’ specification that various voltages correspond to various thicknesses of the gate insulation film. Specifically, the outstanding Office Action quotes the Applicants’ specification as stating “...sufficient viewing angle improvement effects can be attained when this thickness is greater than about 800 nm.”

Thus, providing no motivation or suggestion except the above noted quotes from the specification of the Applicants, the outstanding Office Action asserts that one of ordinary skill in the art would modify the device of Michibayashi in view of Kaneko.

However, *In re Rouffet*, 149 F.3d 1350 sets forth criteria for being certain that impermissible hindsight is not being used to deprecate an invention.

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner *to show* a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, ***confronted with the same problems as the inventor and with no knowledge of the claimed invention***, would select the elements from the cited prior art references for combination in the manner claimed. [emphasis added]

In the present case, the outstanding Office Action identifies no common problem confronting the skilled artisan by which the artisan would have selected certain elements of Kaneko to combine with the device of Michibayashi. Specifically, Kaneko does not teach or suggest that a thickness of a gate insulating film affects in any way a viewing angle. Accordingly, Applicants respectfully submit that the above-noted description from Applicants' own specification does not provide a proper motivation or suggestion to combine Michibayashi with Kaneko. Therefore, it is respectfully submitted that the Office Action did not establish a *prima facie* case of obviousness.

Further, Applicants respectfully submit that Kaneko teaches "a 4000 angstrom thick gate insulation film." Moreover, as discussed above, Michibayashi is silent about providing a certain thickness of the gate insulating film. Thus, it is respectfully submitted that one of ordinary skill in the art would not combine the teachings of Michibayashi with the teachings of Kaneko to arrive at an insulation gate film having a thickness about 400 nm because there is no suggestion or motivation on the record that a 400 nm thick gate is more desired than the thickness of Michibayashi. These disparate reference teachings further raise a question of

why the artisan would even consider these references for combination, a question the PTO must answer. See *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), requiring the PTO to “explain the reasons one of ordinary skill in the art would have been motivated to select the references ....”

Furthermore, in rejecting a claim under 35 U.S.C. § 103(a), the USPTO must support its rejection by “substantial evidence” within the record,<sup>1</sup> and by “clear and particular” evidence<sup>2</sup> of a suggestion, teaching, or motivation to combine the teachings of different references. As discussed above, there is no substantial evidence, nor clear and particular evidence, within the record of motivation for modifying Michibayashi by incorporating the 400 nm thick gate insulating film of Kaneko. Without such motivation and absent improper hindsight reconstruction,<sup>3</sup> a person of ordinary skill in the art would not be motivated to perform the proposed modification.

Accordingly, it is respectfully submitted that independent Claims 1, 9, 16, and 17 and each of the claims depending therefrom patentably distinguish over Michibayashi and Kaneko, either alone or in combination.

Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi in view of Kaneko and Kim. That rejection is respectfully traversed.

The outstanding Office Action relies on Kim for teaching a cumulative capacitance for stabilizing a pixel potential and a first pixel electrode being in the same layer as a gate

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<sup>1</sup> *In re Gartside*, 203 F3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000) (holding that, consistent with the Administrative Procedure Act at 5 USC 706(e), the CAFC reviews the Board's decisions based on factfindings, such as 35 U.S.C. § 103(a) rejections, using the 'substantial evidence' standard because these decisions are confined to the factual record compiled by the Board.)

<sup>2</sup> *In re Dembiczak*, 175 F3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (“We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, although ‘the suggestion more often comes from the teachings of the pertinent references.’ The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular.”) (emphasis added).

<sup>3</sup> See MPEP 2141, stating, as one of the tenets of patent law applying to 35 USC 103, that “[t]he references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention.”

line. However, Kim does overcome the deficiencies of Claim 1 discussed above. In addition, Claims 2 and 3 depend from independent Claim 1, which is believed to be allowable as noted above. Accordingly, it is respectfully submitted that dependent Claims 2 and 3 are also allowable.

Claim 8 was rejected under 35 U.S.C. § 103(a) as unpatentable over Michibayashi, Kaneko, and Lee. That rejection is respectfully traversed.

The outstanding Office Action relies on Lee for teaching a second pixel electrode with an opening. However, Lee does not overcome the deficiencies of Claim 1 discussed above. In addition, Claim 8 depends from independent Claim 1, which is believed to be allowable as noted above. Accordingly, it is respectfully submitted that dependent Claim 8 is also allowable.

Because Claim 1 is generic to withdrawn Claims 4, 5, 6, 7, and 18 and because Claim 1 is believed to be allowable in view of the present amendment, Applicants respectfully submit that withdrawn Claims 4, 5, 6, 7, and 18 must now be reintroduced.

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE DRAWINGS

The attached sheet of drawings includes changes to Figures 18 and 19. This sheet, which includes Figures 18 and 19, replaces the original sheet including Figures 18 and 19.

Attachment: Replacement Sheet (1)